APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,891	10/31/2003	Robert Ledingham	6486.P004	2981

7590   06/08/2006

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EXAMINER
WEISKOPF, MARIE

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/698,891	LEDINGHAM ET AL.
Office Action Summary	Examiner	Art Unit	
	Marie A. Weiskopf	3661	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>02 March 2006</u>.
2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-5,7,10-17,19-23 and 25-38</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1,3-5,7,10-17,19-23 and 25-38</u> is/are rejected.
7) ☒ Claim(s) <u>2</u> is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see pages 8-11, filed 3/2/06, with respect to the rejection(s) of claim(s) 1 and 23 after amendments under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Claim Objections

2.   Claim 21 recites the limitation "a system as claimed in claim 18" in line 1. There is insufficient antecedent basis for this limitation in the claim since the claim depends from claim 18 which is a cancelled claim. Claim 21 will not be further examined on the merits.

3.   Claim 22 is further dependent on claim 21 and therefore will not be further examined on the merits.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5.   Claims 1, 23 and 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention.

- In regard to claim 1, line 2, the specification does not anywhere mention the data

    manager being placed at a middle tier of a three-tier architecture. Applicant

    pointed to figures 3-5, 35 and 38 for support for the amendment but there is no

    written description that the data manager is part of a three-tier architecture.

- In regard to claim 1, line 3, the specification does not provide support for the data

    manager for "arbitrating" flight, system and airport data transactions. The word

    "arbitrating" is not mentioned or described in the specification and would not

    reasonably be determined from one of ordinary skill in the art.

- In regard to claim 1, line 12, the specification does not provide support for

    moving data from a secure domain to a less secure domain in a "non-intrusive"

    manner. Again, "non-intrusive" is not mentioned anywhere within the

    specification and would not have been reasonably determined from one of

    ordinary skill in the art from the specification presented.

- In regard to claim 23, line 2, the specification does not anywhere mention the

    data manager being placed at a middle tier of a three-tier architecture. Applicant

    pointed to figures 3-5, 35 and 38 for support for the amendment but there is no

    written description that the data manager is part of a three-tier architecture.

- In regard to claim 38, lines 3-4, the specification does not provide support for

    moving data from a secure domain to a less secure domain in a "non-intrusive"

    manner. Again, "non-intrusive" is not mentioned anywhere within the

specification and would not have been reasonably determined from one of

ordinary skill in the art from the specification presented.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims .... are rejected under 35 U.S.C. 103(a) as being unpatentable over Glass

et al (US 6,161,097) in view of Hensey et al (US 2003/0109973), Spencer, JR (US

2002/0188610) and "Three Tier Software Architecture, Software Technology Roadmap"

(www.sei.cmu.edu/str/descriptions/threetier_body.html, hereinafter referred to as

website). Glass et al is discussed in the previous office action and discloses a

automated traffic management system and method. Hensey et al discloses a electronic

operations and maintenance log and system for an aircraft, and the website discloses

the use of three-tier architecture.

- In regard to claim 1, Glass et al discloses a data manager including a first

   interface and a plurality of second interfaces, a first database server connected

   to the data manager via the first interface, a plurality of clients capable of

   coupling to the data manager via the plurality of second interfaces, at least one

   client being different from the other client, and the second interfaces being

   common to the plurality of clients, and the data manager including module for

providing, based on a subscription list for the plurality of clients providing updates

in a secure apportioned manner. (Column 5, lines 18-35) Glass et al, however,

fails to disclose the use of a three-tier architecture with the data manager being

placed at the middle tier for arbitrating flight, system and airport data transactions

in a performance-related manner, the first database server and plurality of clients

forming the other two tiers, and a gateway server coupled to the database server

through a firewall, the gateway server for moving data from a secure domain to a

less secure domain in a non-intrusive manner. Hensey et al discloses a three-

tier system for collecting data for use by a plurality of users, each of the users

having an associated security level. (Page 2, paragraphs 26-32; Figure 1)

Hensey et al also discloses a gateway server for moving data from a secure

domain to a less secure domain in a non-intrusive manner. (Page 11, paragraph

191 – Page 12, paragraph 192) Spencer, JR discloses having the system being

operable to work with a client's firewall. (Page 4 paragraph 62). It would have

been obvious to one having ordinary skill in the art at the time of the invention to

modify Glass et al to be a three-tier system as taught by Hensey et al because it

is known in the art that a three-tier architecture is used to provide increased

performance, flexibility, maintainability, reusability and scalability, as discussed

on the website (Paragraph 2). Also, the website discloses using a three-tier

architecture over a two-tier architecture when the number of users is expected to

be over 100 and a for real-time information processing in complex systems that

requires operator invention. (Alternatives section of website) Further, Spencer,

JR discusses having firewalls to protect the data and would have been obvious to
use in order to provide complete security.

- In regard to claim 4, Glass et al discloses at least one of the plurality of clients is
  a workstation having a display screen. (Column 7, lines 39-40)

- In regard to claim 5, Glass et al discloses the plurality of second interfaces each
  include a server data manager. In the information subsystem integrates other
  subsystems and provides inter-process management and control. (Column 6,
  lines 45-53)

- In regard to claim 7,Glass et al discloses the data manager includes a flight data
  entry object list. The Client interface subsystem includes an interface for
  continuously displaying flight data on a bit-mapped display and for executing
  various commands to change the flight data or the method of its display. (Column
  7, lines 13-16) Hensey et al discloses the data manager maintains passes and
  receives lists of data entries, system information and dynamically updated
  connection lists, as a streamed object via a streamed socket connection. (Page
  15, paragraph 226)

- In regard to claims 11-13, Glass et al discloses the tables include flight plan
  table, radar track table, airline event table, flight info table, and airline schedule
  table.

- In regard to claim 23, Glass et al discloses a method of transmitting and
  displaying air traffic information using a data manager, a database server and a
  plurality of clients (Column 5, lines 18-35) and changing the data object in

accordance with the data update request (Abstract). Hensey et al discloses a

three-tier system for collecting data for use by a plurality of users, each of the

users having an associated security level. (Page 2, paragraphs 26-32; Figure 1)

Hensey et al also discloses maintaining, passing, receiving or combinations

thereof an active and dynamic lists of subscribers as a streamed object via a

socket connection to add or delete the subscriber, the subscriber being a client

and interested in updated data (Page 15, paragraph 226), also receiving and

parsing a data update request from the subscriber to determine where the

updated data is to be delivered and what subset of the updated data is to be sent

(Page 6, paragraph 87; Page 10, paragraphs 169-176), and ensuring that the

data is updated in the database server and in local caches as processing time

permits for enhanced reliability. (Page 10, paragraphs 174-177) Spencer, JR

discloses transmitting, by an active push mode, the updated data or the subset of

the updated data only to the client which is a subscriber and is interested in that

data (Page 3, paragraph 51) and generating an error and a logging of the error if

it fails to receive acknowledgement of a receipt of the updated data from a client

(Page 7, paragraph 92).   It would have been obvious to one having ordinary skill

in the art at the time of the invention to modify Glass et al to be a three-tier

system as taught by Hensey et al because it is known in the art that a three-tier

architecture is used to provide increased performance, flexibility, maintainability,

reusability and scalability, as discussed on the website (Paragraph 2). Also, the

website discloses using a three-tier architecture over a two-tier architecture when

the number of users is expected to be over 100 and a for real-time information

processing in complex systems that requires operator invention. (Alternatives

section of website) Further, it would have been obvious to include the teachings

of Spencer, JR with the invention of Glass et al in order to be able to generate an

error when information is not received by the client in order for it to be known that

the information was not received and also pushing data to the user so that only

interested users see certain data.

- In regard to claim 25, Glass et al discloses the new data is updated in the tables

  in order to provide the subscribers with the newest information that meet their

  criteria. (Column 17, lines 54-67)

- In regard to claim 26, Glass et al discloses the data for the database is stored in

  database tables. (Column 17, lines 54-67)

- In regard to claims 28-30, Glass et al discloses the tables include flight plan

  table, radar track table, airline event table, flight info table, and airline schedule

  table.

- In regard to claim 38, Hensey et al discloses a database system for moving and

  storing data outside of a secure operational domain (Page 3, paragraph 53), a

  gateway server for moving data from a secure domain to a less secure domain in

  a non-intrusive manner (Page 3, paragraphs 50-55), the gateway server

  including data storage module and module for transferring operational data from

  the secure operational domain. (Page 3, paragraphs 50-55) Spencer, JR

  discloses having the system being operable to work with a client's firewall. (Page

4 paragraph 62). It would have been obvious to one having ordinary skill in the
art at the time of the invention to modify the Hensey et al database system for
moving and storing data outside of a secure operational domain with the firewall
as discussed by Spencer, JR in order to provide the optimum security for the
data and allow only registered users to be able to see the data.

8.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glass et
al (6,161,097) in view of Glass et al (6,278,965.) Glass et al (6,278,965) is a
continuation-in-part of Glass et al (6,161,097.) Glass et al (6,161,097), which was
discussed above, fails to discuss one of the plurality of clients is an external input/output
server. Glass et al (6,278,965) discloses a real-time surface traffic adviser, which is
discussed as an airport traffic data management system. Glass et al (6,161,097) does
discuss an external input server that connects to the TSM in order to provide real time
data over the network. (Column 6, lines 55-63) Glass et al (6,278,965) discusses an
actual external input/output server to allow data exchange and common central storage.
(Column 12, lines 1-7) It would have been obvious to one having ordinary skill in the art
at the time of the invention to us an external server, in order to provide outside
information to the data manager.

9.   Claims 10, 14-16, 27, 31-37 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Glass et al (6,161,097) in view of Mukhopadhyay et al (6,032,158.)
Glass et al discusses creating rows in the database tables in order to be able to log
changes and movements that happen with the data, however, it is not discussed having
secondary, third, fourth or fifth tables for the data. (Column 17, lines 54-67)

Mukhopadhyay et al discloses an apparatus and method for capturing and propagating

changes from an operational database to data marts. Although Mukhopadhyay et al

does not disclose the apparatus and method for an air traffic information system, it is

solving the same problem presented. Mukhopadhyay et al discusses using multiple

tables in order to capture necessary data. (Column 6, lines 1-18; Figure 3) It would

have been obvious to one having ordinary skill in the art at the time of the invention to

instead of creating rows in the tables to store the information as discussed in Glass et

al, to store the information in separate tables which specific functions, such as logging

changes or movements in the table in order to provide clear and easy data for the

database to manage.

10.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glass et

al (6,161,097) in view of Raz (6,292,827.) Glass et all fails to disclose the first interface

using ODBC. It is commonly known to use ODBC, however, Raz specifically states that

it is a well-known protocol that establishes a standard way of interfacing with different

types of databases. (Column 7, lines 52-54)Therefore, it would have been obvious to

one having ordinary skill in the art at the time of the invention to create at least the first

interface to be ODBC since it is what is known and common.

11.   Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bowman-Amuah (6,615,253) as applied to claim 18 above, and further in view of

Mukhopadhyay et al (6,032,158.) Mukhopadhyay et al, as discussed earlier, discloses

using multiple tables in order to be able to log data changes or movements. It would

have been obvious to one having ordinary skill in the art at the time of the invention to

include in the gateway database server the use of multiple tables in order to be able to

log data movement and changes easily for the clients based on what type of database

they were using.

Allowable Subject Matter

12.   Claim 2 is objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Conclusion

13.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

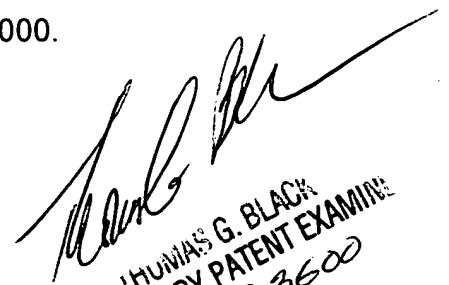than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Marie A. Weiskopf whose telephone number is (571)

272-6288. The examiner can normally be reached on Monday-Thursday between 7:00

AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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